

## SYLLABUS

### CLASS: XI | STREAM: SCIENCE-MATHS

**PHYSICS:**

- 1) Physical world and measurement
- 2) Kinematics
- 3) Laws of Motion
- 4) Work, Energy, Power
- 5) Motion of System of Particles & Rigid body
- 6) Thermodynamics

**CHEMISTRY:**

- 1) Some basic concept of Chemistry (Unit-1) NCERT XI
- 2) Structure of Atom (Unit-2) NCERT XI
- 3) Classification of Elements and Periodicity in Properties (Unit-3) NCERT XI
- 4) Chemical bonding and Molecular Structure (Unit-4) NCERT XI
- 5) States of Matter (Unit-5) NCERT XI
- 6) Organic Chemistry : Some Basic Principles and Techniques (Unit-12) NCERT XI
- 7) Hydrogen (Unit-9) NCERT XI
- 8) s-Block Element (Unit-10) NCERT XI

**MATHS:**

**1. SETS :**

**Subtopic:** Sets and their Representations, The Empty Set, Finite and Infinite Sets, Equal Sets, Subsets, Power Sets, Universal Sets, Venn Diagrams, Operations on sets, Complement of a Sets, Practical Problems on Union and intersection of two sets.

**2. RELATIONS AND FUNCTIONS** (Elementary Function and their Domain, Range).

**SUBTOPIC:** Cartesian Product of Sets, Relations, Modulus function & G.I.F.&log functions.

**3. TRIGONOMETRIC FUNCTIONS & SOLUTIONS OF TRIANGLE** including trigonometric equations).

**SUBTOPIC:** Angles, Trigonometric functions, Trigonometric functions of sum and difference of two angles, Trigonometric equations, Basics of solution of triangle.

**4. PRINCIPLE OF MATHEMATICAL INDUCTION**

**SUBTOPIC:** Motivation, The principle of Mathematical Induction.

**5. QUADRATIC EQUATIONS :** Quadratic equations in real and complex number system and their solutions. Relation between roots and co-efficients, nature of roots, formation of quadratic equations with given roots.

**6. LINEAR INEQUALITIES**

**SUBTOPIC:** Inequalities, Algebra solutions of Linear inequalities in one variable and their Graphical representation, Graphical solutions of linear inequalities in two variables, Solution of system of linear inequalities in two variables.

**7. PERMUTATIONS AND COMBINATIONS**

**SUBTOPIC:** Fundamental principle of counting, permutations, combinations.

**8. BINOMIAL THEOREM**

**SUBTOPIC:** Binomial theorem for positive integral indices, General and middle terms.

**9. SEQUENCE & SERIES**

**SUBTOPIC:** Sequences, series, Arithmetic progression (A.P.), Geometric Progression (G.P.), Relationship between A.M. and G.M., Sum to n terms of special series.

**10. STRAIGHT LINE :** Two dimensions: Cartesian coordinates, distance between two points, section formulae, shift of origin. Equation of a straight line in various forms, angle between two lines, distance of a point from a line. Lines through the point of intersection of two given lines, equation of the bisector of the angle between two lines, concurrency of lines, centroid, orthocentre, incentre and circumcentre of a triangle.

**11. CIRCLE :** Equation of a circle in various forms, equations of tangent, normal and chord. Parametric equations of a circle, intersection of a circle with a straight line or a circle, equation of a circle through the points of intersection of two circles and those of a circle and a straight line. Locus Problems.